



## SEQUENCE LISTING

&lt;110&gt; Protein Design Labs

&lt;120&gt; ANTIBODIES AGAINST GPR64 AND USES THEREOF

&lt;130&gt; 05882.0177.NPUS01

&lt;160&gt; 30

&lt;170&gt; PatentIn version 3.2

&lt;210&gt; 1

&lt;211&gt; 4665

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

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| tttaaagagg | ctaagttatc | tttgataaca  | tcatataaag | caactgttga | cttcagcc   | tg        | 3480       |      |
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| gtcaaaaatc | ttacttctac | atttttt     | gtt        | ttt        | tactgtgtaa | atgtattc  | cct        | 3600 |
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| aaatcctaaa | gctc       | ctttt       | gagatgat   | agatgtgaa  | atacaga    | aaac      | ctc        | 3720 |
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Val Leu Val Thr Ser Leu Glu Glu Asp Thr Asp Asn Ser Ser Leu Ser  
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Pro Pro Pro Ala Lys Leu Ser Val Val Ser Phe Ala Pro Ser Ser Asn  
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Glu Val Glu Thr Thr Ser Leu Asn Asp Val Thr Leu Ser Leu Leu Pro  
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Ser Asn Glu Thr Glu Lys Thr Lys Ile Thr Ile Val Lys Thr Phe Asn  
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Ala Ser Gly Val Lys Pro Gln Arg Asn Ile Cys Asn Leu Ser Ser Ile  
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Cys Asn Asp Ser Ala Phe Phe Arg Gly Glu Ile Met Phe Gln Tyr Asp  
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Lys Glu Ser Thr Val Pro Gln Asn Gln His Ile Thr Asn Gly Thr Leu  
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Thr Gly Val Leu Ser Leu Ser Glu Leu Lys Arg Ser Glu Leu Asn Lys  
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Glu Ala Gln Ser Thr Leu Asn Cys Thr Phe Thr Ile Lys Leu Asn Asn  
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Thr Met Asn Ala Cys Ala Ala Ile Ala Ala Leu Glu Arg Val Lys Ile  
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Arg Pro Met Glu His Cys Cys Cys Ser Val Arg Ile Pro Cys Pro Ser  
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Ser Pro Glu Glu Leu Gly Lys Leu Gln Cys Asp Leu Gln Asp Pro Ile  
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Val Cys Leu Ala Asp His Pro Arg Gly Pro Pro Phe Ser Ser Ser Gln  
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Ser Ile Pro Val Val Pro Arg Ala Thr Val Leu Ser Gln Val Pro Lys  
260 265 270

Ala Thr Ser Phe Ala Glu Pro Pro Asp Tyr Ser Pro Val Thr His Asn  
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Val Pro Ser Pro Ile Gly Glu Ile Gln Pro Leu Ser Pro Gln Pro Ser  
290 295 300

Ala Pro Ile Ala Ser Ser Pro Ala Ile Asp Met Pro Pro Gln Ser Glu  
305 310 315 320

Thr Ile Ser Ser Pro Met Pro Gln Thr His Val Ser Gly Thr Pro Pro  
325 330 335

Pro Val Lys Ala Ser Phe Ser Ser Pro Thr Val Ser Ala Pro Ala Asn  
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Val Asn Thr Thr Ser Ala Pro Pro Val Gln Thr Asp Ile Val Asn Thr  
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Ser Ser Ile Ser Asp Leu Glu Asn Gln Val Leu Gln Met Glu Lys Ala  
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Leu Ser Leu Gly Ser Leu Glu Pro Asn Leu Ala Gly Glu Met Ile Asn  
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Gln Val Ser Arg Leu Leu His Ser Pro Pro Asp Met Leu Ala Pro Leu  
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Ala Gln Arg Leu Leu Lys Val Val Asp Asp Ile Gly Leu Gln Leu Asn  
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Val Ile Arg Val Asn Ala Ser Ser Phe Asn Thr Thr Thr Phe Val Ala  
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Pro Ala His Asp Met Glu Leu Ala Ser Arg Val Gln Phe Asn Phe Phe  
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Glu Thr Pro Ala Leu Phe Gln Asp Pro Ser Leu Glu Asn Leu Ser Leu  
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Leu Thr Arg Asn Val Thr Val Thr Leu Lys His Ile Asn Pro Ser Gln  
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Gly Arg Gly Gly Trp Ser Asp Asn Gly Cys Ser Val Lys Asp Arg Arg  
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Leu Thr Phe Ile Thr Tyr Ile Gly Cys Gly Leu Ser Ser Ile Phe Leu  
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Ser Val Thr Leu Val Thr Tyr Ile Ala Phe Glu Lys Ile Arg Arg Asp  
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Tyr Pro Ser Lys Ile Leu Ile Gln Leu Cys Ala Ala Leu Leu Leu Leu  
660 665 670

Asn Leu Val Phe Leu Leu Asp Ser Trp Ile Ala Leu Tyr Lys Met Gln  
675 680 685

Gly Leu Cys Ile Ser Val Ala Val Phe Leu His Tyr Phe Leu Leu Val  
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Ser Phe Thr Trp Met Gly Leu Glu Ala Phe His Met Tyr Leu Ala Leu  
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Val Lys Val Phe Asn Thr Tyr Ile Arg Lys Tyr Ile Leu Lys Phe Cys  
725 730 735

Ile Val Gly Trp Gly Val Pro Ala Val Val Val Thr Ile Ile Leu Thr  
740 745 750

Ile Ser Pro Asp Asn Tyr Gly Leu Gly Ser Tyr Gly Lys Phe Pro Asn  
755 760 765

Gly Ser Pro Asp Asp Phe Cys Trp Ile Asn Asn Asn Ala Val Phe Tyr  
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Ala Trp Gly Pro Val Asn Val Thr Phe Met Tyr Leu Phe Ala Ile Phe  
850 855 860

Asn Thr Leu Gln Gly Phe Phe Ile Phe Ile Phe Tyr Cys Val Ala Lys  
865 870 875 880

Glu Asn Val Arg Lys Gln Trp Arg Arg Tyr Leu Cys Cys Gly Lys Leu  
885 890 895

Arg Leu Ala Glu Asn Ser Asp Trp Ser Lys Thr Ala Thr Asn Gly Leu  
900 905 910

Lys Lys Gln Thr Val Asn Gln Gly Val Ser Ser Ser Ser Asn Ser Leu  
915 920 925

Gln Ser Ser Ser Asn Ser Thr Asn Ser Thr Thr Leu Leu Val Asn Asn  
930 935 940

Asp Cys Ser Val His Ala Ser Gly Asn Gly Asn Ala Ser Thr Glu Arg  
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Asn Gly Val Ser Phe Ser Val Gln Asn Gly Asp Val Cys Leu His Asp  
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Phe Thr Gly Lys Gln His Met Phe Asn Glu Lys Glu Asp Ser Cys Asn  
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| ctgcagttga  | attctgtgac  | tactgaggac  | acagccacat | attactgtac | aaggagggtg  | 300 |
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| atctcttgca  | gatctagtca  | gagccttgta  | cacagtaatg | gaaacaacta | tttacattgg  | 120 |
| tatttgcaga  | agccaggcca  | gtctccaaag  | ctcctgatct | acaaagtttc | caaccgattt  | 180 |
| tctggggtcc  | cagacaggtt  | cagtggcagt  | ggatcaggga | cagattcac  | actcaagatc  | 240 |
| agcagagtgg  | aggctgagga  | tctgggagtt  | tatttctgct | ctcaaagtac | acatgttccg  | 300 |
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| acttggttctt | tctctgggtt  | ttcactgagc  | acttctggtg | tgggtgtgag | ctggattcgt  | 120 |
| cagccttcag  | gaaagggtct  | ggagtggctg  | gcacacattt | actggatga  | tgataagcgc  | 180 |
| tataaccat   | ccctgaagag  | ccggctcaca  | atctccaagg | atacctccag | aaaccaggta  | 240 |
| ttcctaaga   | tcaccagtgt  | ggacactgca  | gatactgcc  | catactactg | tgctcgaaga  | 300 |
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| gaagtacgac  | gtgattacta | tgctatggac | tactgggtc  | aaggAACCTC  | agtcaccgtc | 360 |
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| acctgcactg  | tcactggcta | ctcaatcacc | agtattatg  | cctggactg   | gatccggcag | 120 |
| tttccagggaa | acaaactgga | gtggatggc  | tacataagct | acagtgatta  | cactagctac | 180 |
| aacccatctc  | tcaaaagtgc | aatctctatc | actcgagaca | catccaagaa  | ccagttttc  | 240 |
| ctgcagttga  | attctgtgac | tactgaggac | acagccacat | attactgtgc  | aagaagggtg | 300 |
| gactactggg  | gtcaaggaac | ctcagtcacc | gtctcctca  |             |            | 339 |
|             |            |            |            |             |            |     |
| <210>       | 10         |            |            |             |            |     |
| <211>       | 336        |            |            |             |            |     |
| <212>       | DNA        |            |            |             |            |     |

<213> Mus sp.

<400> 10

|            |             |            |            |            |            |     |
|------------|-------------|------------|------------|------------|------------|-----|
| gatgttgtga | tgacccaaac  | tccactctcc | ctgcctgtca | gtcttgaga  | tcaagcctcc | 60  |
| atctcttgca | gatctagtca  | gagccttgc  | cacagtaatg | gaaacaccta | tttacattgg | 120 |
| tacctgcaga | agccaggcca  | gtctccaaag | ctcctgatct | acaaagtttc | caaccgattt | 180 |
| tctgggttcc | cagacagggtt | cagtggcagt | ggatcaggga | cagatttcac | actcaagatc | 240 |
| agcagagtgg | aggctgagga  | tctggaggtt | tatttctgct | ctcaaagtac | acatgttccg | 300 |
| tggacgttgc | gtggaggcac  | cacgctggaa | atcaaa     |            |            | 336 |

<210> 11

<211> 339

<212> DNA

<213> Mus sp.

<400> 11

|            |            |            |             |             |            |     |
|------------|------------|------------|-------------|-------------|------------|-----|
| gatgtgcagc | ttcaggagtc | gggacctggc | ctggtggaaac | cttctcagtc  | tctgtccctc | 60  |
| acctgcactg | tcactggcta | ctcaatcacc | agtgattatg  | cctggaaactg | gatccggcag | 120 |
| tttccaggaa | acaaactgga | gtggatgggc | tacataagct  | tcagtgtatag | cactagctac | 180 |
| aacccatctc | tcaaaagtgc | aatctctatc | actcgagaca  | catccaagaa  | ccagttcttc | 240 |
| ctgcagttga | attctgtgac | tactgaggac | acagccacat  | attactgtgc  | aagaaggggg | 300 |
| gactactggg | gtcaaggaac | ctcagtcacc | gtctcctca   |             |            | 339 |

<210> 12

<211> 336

<212> DNA

<213> Mus sp.

<400> 12

|            |             |            |            |            |            |     |
|------------|-------------|------------|------------|------------|------------|-----|
| gatgttgtga | tgacccaaac  | tccactctcc | ctgcctgtca | gtcttgaga  | tcaagcctcc | 60  |
| atctcttgca | gatctagtca  | gagccttgc  | cacagtaatg | gaaacaccta | tttacattgg | 120 |
| tacctgcaga | agccaggcca  | gtctccaaag | ctcctgatct | acaaagtttc | caaccgattt | 180 |
| tctgggttcc | cagacagggtt | cagtggcagt | ggatcaggga | cagatttcac | actcaagatc | 240 |
| agcagagtgg | aggctgagga  | tctggaggtt | tatttctgct | ctcaaagtac | acatgttccg | 300 |
| tggacgttgc | gtggaggcac  | caagctggaa | atcaaa     |            |            | 336 |

<210> 13

<211> 113

<212> PRT

<213> Mus sp.

<400> 13

Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
1 5 10 15

Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Tyr Ser Ile Thr Ser Asp  
20 25 30

Tyr Ala Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp  
35 40 45

Leu Gly Tyr Ile Ser Phe Asn Asp Asn Thr Asn Tyr Asn Pro Ser Leu  
50 55 60

Lys Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe  
65 70 75 80

Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys  
85 90 95

Thr Arg Arg Val Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser  
100 105 110

Ser

<210> 14  
<211> 112  
<212> PRT  
<213> Mus sp.

<400> 14

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly  
1 5 10 15

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser  
20 25 30

Asn Gly Asn Asn Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro  
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys Ser Gln Ser  
85 90 95

Thr His Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys  
100 105 110

<210> 15  
<211> 120  
<212> PRT  
<213> Mus sp.

<400> 15

Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln  
1 5 10 15

Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Ser Thr Ser  
20 25 30

Gly Val Gly Val Ser Trp Ile Arg Gln Pro Ser Gly Lys Gly Leu Glu  
35 40 45

Trp Leu Ala His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Asn Pro Ser  
50 55 60

Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Arg Asn Gln Val  
65 70 75 80

Phe Leu Lys Ile Thr Ser Val Asp Thr Ala Asp Thr Ala Thr Tyr Tyr  
85 90 95

Cys Ala Arg Arg Val Phe Ile Ile Thr Ala Phe Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Thr Leu Thr Val Ser Ser  
115 120

<210> 16  
<211> 107  
<212> PRT  
<213> Mus sp.

<400> 16

Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu Gly  
1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr  
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile  
35 40 45

Tyr Tyr Thr Ser Asn Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Ala Asp Tyr Ser Leu Thr Ile Gly Asn Leu Glu Gln  
65 70 75 80

Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asn Thr Leu Pro Trp  
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys  
100 105

<210> 17  
<211> 122  
<212> PRT  
<213> Mus sp.

<400> 17

Gln Val Ser Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln  
1 5 10 15

Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Ser Thr Ser  
20 25 30

Gly Met Gly Val Ser Trp Ile Arg Gln Pro Ser Gly Lys Gly Leu Glu  
35 40 45

Trp Leu Ala His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Asn Pro Ser  
50 55 60

Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Ser Asn Leu Val  
65 70 75 80

Phe Leu Lys Ile Thr Ser Val Asp Thr Ala Asp Thr Ala Thr Tyr Tyr  
85 90 95

Cys Ala Arg Arg Glu Val Arg Arg Asp Tyr Tyr Ala Met Asp Tyr Trp  
100 105 110

Gly Gln Gly Thr Ser Val Thr Val Ser Ser  
115 120

<210> 18  
<211> 107  
<212> PRT  
<213> Mus sp.

<400> 18

Ser Ile Val Met Thr Gln Thr Pro Lys Phe Leu Leu Val Ser Ala Gly  
1 5 10 15

Asp Arg Ile Thr Ile Ala Cys Arg Ala Ser Gln Ser Val Ser Asn Asp  
20 25 30

val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile  
35 40 45

Asn Tyr Thr Ser Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Thr Gly  
50 55 60

Ser Gly Tyr Gly Thr Asp Phe Thr Phe Thr Ile Ser Thr Val Gln Ala  
65 70 75 80

Glu Asp Leu Ala Val Tyr Phe Cys Gln Gln Ala Tyr Ser Ser Pro Trp  
85 90 95

Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys  
100 105

<210> 19  
<211> 113  
<212> PRT  
<213> Mus sp.

<400> 19

Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
1 5 10 15

Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Tyr Ser Ile Thr Ser Asp  
20 25 30

Tyr Ala Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp  
35 40 45

Met Gly Tyr Ile Ser Tyr Ser Asp Tyr Thr Ser Tyr Asn Pro Ser Leu  
50 55 60

Lys Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe  
65 70 75 80

Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys  
85 90 95

Ala Arg Arg Val Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser  
100 105 110

Ser

<210> 20  
<211> 112  
<212> PRT  
<213> Mus sp.

<400> 20

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly  
1 5 10 15

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser  
20 25 30

Asn Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro  
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys Ser Gln Ser  
85 90 95

Thr His Val Pro Trp Thr Phe Gly Gly Thr Thr Leu Glu Ile Lys  
100 105 110

<210> 21

<211> 113

<212> PRT

<213> Mus sp.

<400> 21

Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
1 5 10 15

Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Tyr Ser Ile Thr Ser Asp  
20 25 30

Tyr Ala Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp  
35 40 45

Met Gly Tyr Ile Ser Phe Ser Asp Ser Thr Ser Tyr Asn Pro Ser Leu  
50 55 60

Lys Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe  
65 70 75 80

Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys  
85 90 95

Ala Arg Arg Gly Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser  
100 105 110

Ser

<210> 22  
<211> 112  
<212> PRT  
<213> Mus sp.

<400> 22

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly  
1 5 10 15

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser  
20 25 30

Asn Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro  
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys Ser Gln Ser  
85 90 95

Thr His Leu Pro Trp Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys  
100 105 110

<210> 23  
<211> 21  
<212> RNA  
<213> Artificial

<220>  
<223> siRNA duplex with 3' dTdT overhang

<400> 23  
cagacacggc cacgugugatt

21

<210> 24  
<211> 21  
<212> RNA  
<213> Artificial

<220>  
<223> siRNA duplex with 3' dTdT overhang

<400> 24  
ucacacgugg ccgugucugtt

21

|  |    |
|--|----|
| <210> 25                                 |    |
| <211> 21                                 |    |
| <212> RNA                                |    |
| <213> Artificial                         |    |
| <220>                                    |    |
| <223> siRNA duplex with 3' dTdT overhang |    |
| <400> 25                                 |    |
| gcuagcgccc auucaauagtt                   | 21 |
| <210> 26                                 |    |
| <211> 21                                 |    |
| <212> RNA                                |    |
| <213> Artificial                         |    |
| <220>                                    |    |
| <223> siRNA duplex with 3' dTdT overhang |    |
| <400> 26                                 |    |
| cuauugaaug ggcgcuagctt                   | 21 |
| <210> 27                                 |    |
| <211> 21                                 |    |
| <212> RNA                                |    |
| <213> Artificial                         |    |
| <220>                                    |    |
| <223> siRNA duplex with 3' dTdT overhang |    |
| <400> 27                                 |    |
| gcuuacuccc uucaaacgatt                   | 21 |
| <210> 28                                 |    |
| <211> 21                                 |    |
| <212> RNA                                |    |
| <213> Artificial                         |    |
| <220>                                    |    |
| <223> siRNA duplex with 3' dTdT overhang |    |
| <400> 28                                 |    |
| ucguuugaag ggaguaagctt                   | 21 |
| <210> 29                                 |    |
| <211> 21                                 |    |
| <212> RNA                                |    |
| <213> Artificial                         |    |
| <220>                                    |    |
| <223> siRNA duplex with 3' dTdT overhang |    |
| <400> 29                                 |    |
| ccccagagaa auaucugcatt                   | 21 |
| <210> 30                                 |    |
| <211> 21                                 |    |
| <212> RNA                                |    |
| <213> Artificial                         |    |

<220>  
<223> siRNA duplex with 3' dTdT overhang  
<400> 30  
ugcagauauu ucucuggggtt

21